DEVELOPMENT OF ACCEPTANCE CRITERIA OF INPUT DATA TO A SITE-SPECIFIC BIOSPHERE ASSESSMENT

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In Finland, Olkiluoto Island on the western coast has been selected as a repository site for spent nuclear fuel disposal. With approaching licensing steps (application for nuclear construction licence in 2012), the biosphere assessment demonstrating the long-term safety of the repository is developed into more and more site specific. As there are a large number of input parameters requiring site-specific or at least site-informed data, it is practically impossible to cover them all by statistically adequate number of site measurements - especially taking the major environmental change due to post-glacial crustal rebound (land uplift) into account - and on the other hand not all literature data are appropriate to be used in the context of the assessment and of the site. In this contribution, a screening methodology based on the accumulated understanding of the site conditions at present and in the future will be presented to classify potential input data to the biosphere assessment (such as concentration ratios and Kd) into totally rejected, those allowed to contribute to background variability only, those of context-relevant literature and those from the site or confirmed analogue locations; the input data used in the assessment will be a synthesis of literature and site data, each class having a weight in contribution. Aspects related to empirical and statistical quality of the data, geological, biological, chemical and hydrological conditions of the measurement location or of the experiment, representativeness of the species or type for which the data is valid, and expected development of the site within the assessment time frame are considered in the methodology.